I-580 Resurfacing Project - Questions and Answers (Q & A)
April 15, 2015

1. Share traffic counts during day time hours and calculate delay impacts as well as analysis on goods movement, etc. to show day time construction will not be an issue.

Caltrans reviewed the traffic data to determine if construction activities could be done during day time but in the off peak hours (Eastbound direction from 6:00 am to 2:00 pm; and Westbound from 11:00 am to 7:00 pm). To reduce safety concerns of the traveling public and field staff/construction workers, construction operations require a minimum of two lanes closure before work can begin. The closure of just one eastbound traffic lane during day time, for example, could lead to individual motorist delay of nearly one hour by 2:00 pm. The closure of just one westbound traffic lane until 7:00 pm, would impact the afternoon commute and lead to individual motorist delay of multiple hours. Closing two, or even three, traffic lanes as is required to perform the construction activities would lead to exponentially higher individual motorist delay.

An initial attempt of traffic diversions by frustrated motorists would create more gridlocks on other interstate freeways and state routes, and local streets. With significant congestion some motorists may divert to alternative roads and freeways which could reduce the attached theoretical congestion calculations.

It is recommended that the construction activities occur during the night time hours when traffic volumes are light and two or three lanes can be closed, avoiding significant delays. The theoretical delay calculations, based on most recent available traffic volumes, are attached (refer to column H on Attachment # 1).

2. Provide night time delay calculations.

Refer to column H on Attachment # 2.

3. Can we expand use of rubberized asphalt for the entire project as part of a noise reduction effort?

The purpose of this preventive maintenance project is to preserve this segment of I-580 for at least 10 years, so Caltrans is fixing the roadway at spot locations: about 75% of the freeway lanes consist of concrete pavement, but only about 5% is damaged and in need of repair. The repair consists of replacing the damaged concrete slabs. After all the new slabs are constructed, the entire freeway will be ground to smooth out irregularities that have developed over the years, improving ride quality. As a byproduct of improving ride quality, it is anticipated that the pavement will be slightly quieter.

Since the majority of the concrete pavement is in an acceptable condition and requires a relatively minor amount of repair, rubberized asphalt concrete is not needed and is therefore not proposed for these areas.

Approximately 25% of the freeway lanes and all the on/off ramps consist of asphalt concrete pavement. For these areas, the top 4 inches will be removed and resurfaced with rubberized asphalt concrete pavement. Rubberized asphalt concrete initially provides some noise reduction benefits. In time, as dirt and debris fills voids in the pavement, the sound absorbing properties diminish and noise levels will increase again.

4. Additional funds for project, specifically for rubberized asphalt: Measure BB and SHOPP program. Provide the methodology of prioritization of funding projects.

The Alameda County Transportation Commission (ACTC) is the agency that manages the Measure BB funds.

The State Highway Operations and Protection Program (SHOPP) funds projects to maintain and preserve the state highway system and its supporting infrastructure. The estimated need to maintain and preserve California's aging highway system is $8 billion per year and the estimated revenue is approximately $2.3 billion per year, resulting in an estimated shortfall of $5.7 billion per year. Since funding is insufficient to preserve and maintain the existing transportation infrastructure, Caltrans prioritizes SHOPP funding on most critical categories of projects: safety, mandates, and bridge and pavement preservation.

The methodology for prioritizing pavement repair projects is the following:

1) A Pavement Condition Survey (PCS) consisting of a visual inspection of the pavement surface using a team of pavement raters is done.
2) An automated data collection for ride quality is performed. For asphalt pavement, the survey consists of repeatable samples taken at the beginning of each post mile regardless of the change in condition. For concrete pavement, the concrete slabs are continuously rated in one mile segments.
3) The pavement smoothness is measured using a standardized scale called the IRI. The IRI units are measured by inches per mile. This data measures the relative up and down movement of the vehicle. On a smooth road, such as a newly paved rehabilitation project, the up and down movement is low. On rough pavements, IRI values are high. The threshold for poor ride, per the Federal Highway Administration (FHWA) Standard, is greater than 170 inches per mile.
4) Surveyed pavements are classified into distressed lane miles (major, minor or poor ride only), minor surface distress and no distress. Ride quality, and structural distress are used to prioritize the distressed pavement roadway segments for either rehabilitation or preventative maintenance.
5) Determining the priority of a roadway segment that will be resurfaced also depends on factors such as traffic volume, project costs, and on-going maintenance expenditures.

For this project, the majority of the concrete pavement is in an acceptable condition and requires a relatively minor amount of repair, rubberized asphalt concrete is not needed and is therefore not proposed for the concrete pavement areas (75%). However, this project includes using rubberized asphalt concrete on about 25% of the project area.

In order to overlay the existing concrete pavement with rubberized asphalt concrete pavement it would cost approximately $30-50 million as it requires rebuilding the pavement section, replacing the median barrier and approach barrier rails, sign structures, drainage facilities, guardrail and lighting facilities. In addition, the rubberized asphalt concrete would also require more frequent resurfacing with the same type of night time construction operations that are part of the current project.

5. Clarity on timeframe. Project is 16 months but only 6 to 7 months' worth of construction?

The project will be constructed in two phases: the first phase includes repairing and resurfacing the freeway lanes and will be from about May through September 2015, approximately 5 months. The original engineer's estimated construction time was 300 work days (about 15 months), but based on a bidding process that requires the contractor to bid on work items and time, OC Jones' contract was awarded based on the contractor's schedule to do the work in about 88 working days (about 5 months). The second phase includes repairing and resurfacing the ramps in spring 2016 for approximately 3 to 4 months. In total, there will be approximately 8 to 9 months of construction activities over this six-mile project length.

6. Use of portable sound barriers as part of a noise reduction effort.

The night time construction activities that generate most of the noise include the following:

1) Sawcutting the concrete pavement at spot locations (for specific locations, refer to Attachment # 3) - Caltrans is looking into various devices that could possibly minimize the noise generated from sawcutting and will update this answer as more information becomes available.

2) Jack-hammering the concrete pavement at spot locations - in an effort to minimize noisy operations, the contractor has agreed to make an attempt to remove the concrete pavement in larger pieces avoiding jack-hammering.

3) Removal of asphalt concrete pavement.

The above operations move relatively quickly and so a fixed temporary soundwall is not feasible as the work will be constantly moving from location to location. Temporary walls, including "Echo Walls", are best suited for construction operations that are fixed in one location for an extended period of time.

Other noise that will be generated, such as back up alarms, are required to be used for safety reasons.

7. What is the frequency spectrum of the construction noise so that it can be determined if it can be blocked using noise canceling sound waves.

Noise cancelling technology is not practical for this construction environment. This is new technology that has not been proven to actually reduce construction-related noise.

8. Financial impact analysis on full rehabilitation.

The State Highway Operations and Protection Program (SHOPP) funds projects to maintain and preserve the state highway system and its supporting infrastructure. The estimated need to maintain and preserve California's aging highway system is $8 billion per year and the estimated revenue is approximately $2.3 billion per year, resulting in an estimated shortfall of $5.7 billion per year.

This $17 million SHOPP-funded project will preserve the existing pavement on the I-580 corridor for at least 10 years. The travelling public and adjacent neighborhoods will benefit with improved ride quality and in some areas a slight reduction in traffic noise. Caltrans recommends extending the life of the pavement as a cost effective approach to improving the pavement and ride quality with very limited SHOPP funds.

In order to overlay the existing concrete pavement with rubberized asphalt concrete pavement it would cost approximately $30-50 million as it requires rebuilding the pavement section, replacing the median barrier and approach barrier rails, sign structures, drainage facilities, guardrail and lighting facilities.

Waiting for a more comprehensive asphalt concrete rehabilitation project would mean that the pavement and ride quality would continue to deteriorate and noise levels would likely increase. The time to plan, environmentally clear, design, and construct a new project would also take several years to complete. The cost would be significantly higher and with the demands for transportation projects throughout the state, there are no guarantees that SHOPP funds would be available for roadway rehabilitation in the future.

9. Sample of Quiet Segment of Freeway on I-880 in Oakland

a) What type of material is used on this segment? How did this segment of Nimitz get this way?

The strategy to repair the I-880 segment between 5th Avenue and High Street in 2011 included leaving the existing concrete pavement in place and overlaying it with open-graded asphalt concrete. The full rehabilitation strategy was used based on the following:

1) Caltrans performed a Pavement Condition Survey (PCS) consisting of a visual inspection of the pavement surface using a team of pavement raters. It was determined, just based on the visual inspection, that the existing concrete pavement was too damaged and therefore required a full rehabilitation.
2) Overall high traffic volume with high percentage of truck volumes (about 10%).
3) On-going maintenance expenditures.

In addition, it was determined to be more cost-effective, in the long term, to overlay the existing concrete pavement with open-graded asphalt concrete in lieu of replacing the entire segment of the freeway with new concrete pavement.

b) What has to happen to do the same for (at minimum) the 6 miles of I-580 they plan to work on?

The existing pavement condition on I-580 does not require the same strategy used on I-880. Only 5% of the concrete pavement needs to be fixed. If no preventative maintenance is done, the concrete pavement would continue to deteriorate to a condition that would eventually warrant pavement rehabilitation, but it could be several years from now. At that point, a lifecycle cost analysis, done for rehabilitation projects, would be performed to evaluate the cost of concrete and asphalt concrete pavement strategies for the corridor. If asphalt concrete were determined to be more cost effective over the long term, asphalt concrete would be used to rehabilitate the pavement.

10. Clearer outline of contract obligations for noise and dust.

The noise sections are found on page 45 of the special provisions. Dust section is found on page 48. Below is the link to the project's special provisions addressing noise and dust: http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/04/04-4H2214/specs/04-4H2214sp.pdf

11. List of bidders, evidence of advertisement of contract.

The Construction contract was advertised for bid on November 3, 2014. Caltrans construction contracts follow an electronic bid process. Qualified Contractors receive the bid documents, including the plans, specifications, and estimates, and submit bids to construct the contract. On January 15, 2015, bids were opened. A total of 7 bidders submitted bids. After an evaluation of the contractor's bids, Caltrans awarded the construction contract to O.C. Jones, Inc. on March 18, 2015.

A copy of the advertised bid documents can be found here: http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/04/04-4H2214/ - note that all folders should be opened to get the entire bid documents, which include plans, special provisions and addenda.

A copy of a summary of the bid results can be found here: http://www.dot.ca.gov/hq/esc/oe/planholders/oe_bidsum.php?q=04-4h2214&d=&search=Search - click the link to "Full Bid Summary" to see the list of contractors that submitted bids.

The project did not hold a pre-bid meeting with the contractors. This process is done when there are unusual requirements or conditions that warrant bringing to the Contractor's attention. The anticipated construction operations are typical of road preservation projects, therefore no pre-bid meeting was necessary for the project.

12. Policy of construction noise during night time hours and legal sign off.

Caltrans has standard procedures for addressing construction noise in the construction contract document. Language regarding noise during night time hours is tailored for the project-specific types of construction activities. Noise requirements include noise restriction exceptions that list construction activities such as concrete removal and asphalt paving. Refer to page 45 of the Special Provisions: http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/04/04-4H2214/specs/04-4H2214sp.pdf

13. PDPM Chapter 30 noise abatement guidelines - Rule on projects with 85 decibel level or higher waived. What was the process and why was it waived? Relation with CEQA? Does federal law regarding noise abatement superseded the state requirements?

The project meets all Federal and State requirements for noise abatement. The project also meets the noise abatement guidelines in Chapter 30 of Caltrans Project Development Procedures Manual (PDPM).

Per Federal and State guidelines, this project does not qualify for noise abatement. However, to address construction noise, standard special provision 14-8.02, Noise Control, is included in the construction contract document (refer to page 45 of the special provisions: http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/04/04-4H2214/specs/04-4H2214sp.pdf . This limits construction noise to 86 dBA Lmax at 50 feet from the job site during project activities from 9 p.m. to 6 a.m. Please note that noise levels are expected to drop by 6 dBA each time the distance is doubled (e.g., 80 dBA at 100 feet; 74 dBA at 200 feet).

14. What was the Categorical Exemption process and public notification process prior to the end of 2014 and project scoping?

Caltrans has met all environmental requirements under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) processes.

The environmental document for this preventive maintenance project is a Categorical Exemption/Categorical Exclusion (CE/CE) under CEQA/NEPA determination. The following environmental resources were analyzed for the project: aesthetics, biological, cultural, green house gas emissions, land use planning, population/housing, transportation traffic, air quality, agriculture and forestry, hazards and hazardous materials, mineral resources, public services, utilities/service systems, geology/soils, hydrology/water quality, noise, and recreation.

A site visit and an aerial photo analysis of biological resources resulted in biological conditions within the project area. A historic review of bridges within the project area was determined to be a category 5, which are not eligible for the National Register of Historic Places (NRHP). The Transportation Air Quality Conformity Findings checklist was completed, and it was determined that the project is exempt from all project-level air quality conformity requirements.

Upon completion of analysis of environmental resources within the project area, it was determined that there is not a reasonable possibility that the project would have a significant effect on the environment due to unusual circumstances. As such, the project is categorically exempt and excluded from the requirements to prepare an Initial Study or Environmental Assessment.

Because the project falls under the CE, a scoping meeting was not required. However, Caltrans held two public meetings, on February 25, 2015 and on March 4, 2015, to inform the public of the upcoming project.

15. List of all current Caltrans construction projects in the state that have some lane closings and work during the day. (e.g. Highway 101 in Petaluma and Intersection of Highway 80 and 92 in Hayward are known projects)

Lane closures can be done during the day if delays are 15 minutes or less in the corridor. The requested list is not available, but closures are done during the day if the volumes allow and based on whether the operation requires one, two or more lanes closed at the same time. Note that construction work on Highway 101 in Petaluma was done during the day without a lane closure because a temporary rail (K-rail) was installed and work was done behind it. Temporary rail is installed for certain types of work, such as roadway widening, median barrier removal/reconstruction. For the I-580 project, K-rail will be installed at spot locations, where the barrier rail transition will be connected to the Metal Beam Guard Rail (MBGR) at the bridge approaches. In addition, K-rail will also be used when MBGR is replaced with barrier railing between bridge columns.

16. Clearer picture or map with details of where jack-hammering would take place

A map (see Attachment # 3) has been prepared showing where the concrete slabs will be replaced – this is the operation that will require sawcutting, and most likely no jack-hammering (refer to answer # 6). The contractor will be providing a weekly two-week look-ahead schedule showing the locations of the work. This schedule will be posted to the project website.

17. Link to website and phone number during night time construction hours (for noise and dust complaints).

http://www.dot.ca.gov/dist4/580resurfacing/

The Caltrans Public Information Officer is Myeast McCauley, (510) 286-5522 Desk and (510) 715-9397 Cell. Myeast's phone numbers will be posted on the project website.

18. Issue of devaluing for sale properties as realtors must disclose construction during night time hours.

Nearby homes will experience nighttime construction noise for a short period of time as the work will proceed relatively quickly down the freeway to other areas. The construction noise generated from the project is considered temporary, affects all properties, and is reasonable work for the benefit of the public. For these reasons, claims of loss of value due to night time construction noise are therefore not compensable.

19. What steps have been taken to minimize noise?

Mitigation measures are the following:

- Caltrans is working closely with the contractor to minimize noise during construction, when feasible. Refer to answer # 6.

- Construction equipment conforms to the standard special provision (SSP) section 14-8.02, Noise Control, as summarized below:

    - Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
    - Unnecessary idling of internal combustion engine within 100 feet of residences should be prohibited.

- Utilize "quiet" air compressors and other "quiet" equipment where such technology exists.

- Avoid staging of construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment, such as air compressors, portable power generators, or self-powered lighting systems as far and practical as possible from sensitive noise receptors.

20. What are the bridge maintenance or rehabilitation schedules along the corridor since the bridges are excluded from the work?

Four bridges within the project limits (SR-24/I-580 connector, Broadway/Richmond Blvd., Lakeshore Park and Park Blvd.) will require maintenance work in fall 2015. Maintenance work includes:

SR-24 / I-580 Connector
- Repair deck spalls
- Repaint bridge identification number
- Remove and repair unsound concrete

Broadway/Richmond Blvd.
- Replace joint seals

Lakeshore Park
- Repair abutments
- Replace joint seals
- Remove and repair unsound concrete

Park Blvd.
- Replace joint seals

21. Resident used an iphone app to state that current ambient noise in the home with windows open was at 70 decibels

Mitigation request for existing noise should be directed to the Alameda CTC. According to the Alameda CTC website, "The Alameda CTC is responsible for prioritizing STIP funds and has assisted in reviewing and evaluating retrofit soundwall requests in the past. The local jurisdiction the soundwall would be located in must also be involved from the time of the initial request. The local jurisdiction needs to work with residents, community groups and other stakeholders and provide advocacy and resources (staff and funding) to deliver and construct the projects they support. Similar to other transportation project priorities, local agencies need to nominate soundwall projects for STIP funding". For further information

about the Alameda CTC Soundwall Retrofit Program, visit their website at http://www.alamedactc.org/.

Caltrans is required to analyze traffic noise impacts and consider noise abatement for any project that uses federal funds and will increase the capacity of the freeway, and/or change the alignment of the freeway on ramps in a major way. This preventive maintenance project does not increase capacity, therefore there is no mandate for Caltrans to analyze traffic noise impacts. Capacity increase projects are those that add lanes to the freeway or ramps.

22. CEQA Noise Issues: Is there a federal mandate to address noise? Was there a noise study recently or 25 years ago?

Caltrans is required to analyze traffic noise impacts and consider noise abatement for any project that uses federal funds and will increase the capacity of the freeway, and/or change the alignment of the freeway on ramps in a major way. This project is not a capacity increase project, therefore there is no mandate for Caltrans to analyze traffic noise impacts. Capacity increase projects are those that add lanes to the freeway or ramps.

The most recent noise study in this area was conducted in 2002. Below is a list of other noise studies conducted in this corridor:

Route 580-Post Mile 41.7 to 42.2 – 14th to Ardley Ave. – 2003
Route 580-Post Mile 16 to 16.2 – MacArthur On-Ramp – 2001
Route 580-Post Mile 39.9 – Kingsland Ave. Measurements – 2000
Route 580-Post Mile 42.7 to 43.5 – Noise Abatement Study – 1999
**The above four studies had no night time noise measurements*.

23. Was there a charter document during the initial construction of 580 that addresses noise?

Not to Caltrans' knowledge.

24. What is the schedule of the current project? Time of day?

The project will be constructed in two phases: the first phase includes repairing and resurfacing the freeway lanes and will be from about May through September 2015, approximately 5 months. The original engineer's estimated construction time was 300 work days (about 15 months), but based on a bidding process that requires the contractor to bid on work items and time, OC Jones' contract was awarded based on the contractor's schedule to do the work in about 88 working days (about 5 months). The second phase includes repairing and resurfacing the ramps in spring 2016 for approximately 3 to 4

months. In total, there will be approximately 8 to 9 months of construction activities over this six-mile project length.

Lane closures will be done during the nighttime, from 10PM to 6AM.

25. Will information be provided to the neighborhood to keep residents informed? Is there a mandate to address noise on 580?

Yes, information will be provided to the neighborhood via the project website: http://www.dot.ca.gov/dist4/580resurfacing/. The contractor will be providing a weekly two-week look ahead schedule, which will be posted to the project website.

The Caltrans Public Information Officer is Myeast McCauley, (510) 286-5522 Desk and (510) 715-9397 Cell. Myeast's phone numbers will be posted on the project website.

26. Residents request a soundwall.

Caltrans is not required to provide soundwalls as part of this project, since this Capital Preventative Maintenance project is not a capacity-increasing project. According to the Alameda CTC website, "The Alameda CTC is responsible for prioritizing STIP funds and has assisted in reviewing and evaluating retrofit soundwall requests in the past. The local jurisdiction the soundwall would be located in must also be involved from the time of the initial request. The local jurisdiction needs to work with residents, community groups and other stakeholders and provide advocacy and resources (staff and funding) to deliver and construct the projects they support. Similar to other transportation project priorities, local agencies need to nominate soundwall projects for STIP funding". For further information about the Alameda CTC Soundwall Retrofit Program, visit their website at http://www.alamedactc.org/.

27. Will rubberized asphalt be used on this project? Quiet pavement technology? Resident stated, "...application of rubberized asphalt is more complicated than traditional pavement....another project had problems with application and had lots of asphalt fall apart..."

The purpose of this preventive maintenance project is to preserve this segment of I-580 for at least 10 years, so Caltrans is fixing the roadway at spot locations: about 75% of the freeway lanes consist of concrete pavement, but only about 5% is damaged and in need of repair. The repair consists of replacing the damaged concrete slabs. After all the new slabs are constructed, the entire freeway will be ground to smooth out irregularities that have developed over the years, improving ride quality. As a byproduct of improving ride quality, it is anticipated that the pavement will be slightly quieter.

Since the majority of the concrete pavement is in an acceptable condition and requires a relatively minor amount of repair, rubberized asphalt concrete is not needed and is therefore not proposed for these areas.

Approximately 25% of the freeway lanes and all the on/off ramps consist of asphalt concrete pavement. For these areas, the top 4 inches will be removed and resurfaced with rubberized asphalt concrete pavement. Rubberized asphalt concrete initially provides some noise reduction benefits. In time, as dirt and debris fills voids in the pavement, the sound absorbing properties diminish and noise levels will increase again.

28. Invite Alameda CTC to the Caltrans meeting to discuss a soundwall. Can Alameda CTA fund a soundwall? What is the next step if not in the budget for the current resurfacing project?

Alameda County Transportation Commission (ACTC) has been invited to attend the upcoming meeting on April 13, 2015.

29. How will traffic be diverted around the construction zone? Rerouted through neighborhoods/city surface streets?

The project will require periodic night time closures of on/off ramps. For the on-ramp closures, detours will be provided to route traffic on city streets to the closest on-ramp to access the freeway. Refer to link below showing the detour routes on pages 105 through 117 of the contract plans in the "plans" folder:
http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/04/04-4H2214/

30. Request to see the original drawings of 580 to see if a soundwall was included in initial phase of construction.

I-580 was constructed in the early 1960s. Soundwalls were not constructed as part of freeway projects until much later.

31. Method to communicate with responsible Caltrans decision makers during construction.

i. 24 hour phone contact with a real person and
ii. Published clear lines of responsibility for dust and noise issues

The Caltrans Public Information Officer is Myeast McCauley, (510) 286-5522 (Desk) and (510) 715-9397 (Cell). Myeast's phone numbers will be posted on the project website.

The Caltrans Resident Engineer (RE) is responsible for the implementation of the requirements of the contract between Caltrans and OC Jones. During construction, any

construction-related issues, including dust and noise, should be directed to Myeast, who in turn will have the RE address.

32. Map with dates, times and areas of jack hammering / saw cutting kept current on a daily basis and proposed method of distribution.

The contractor will be providing a weekly two-week look ahead schedule, which will be posted to the project website. This schedule will provide the community information regarding the type of construction activity (saw-cutting concrete, grinding pavement, paving), location and timeline when the contractor will be performing the various activities.

Remaining questions brought up at the April 13, 2015 focus meeting will be added to this Q & A document.